



Implementing SOA at Multiple Government Sites

Best Practices and Lessons Learned

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It is time to lean forward!

- **SOA can be a "game changer" for the US Government – it will improve:**
 - ✓ Time-to-market for additional capabilities
 - ✓ Cost per capability
 - ✓ Quality of capabilities
- **There is little evidence of widespread adoption**
- **How does an agency move from inaction to action?
What are some of the lessons learned?**
- **What should agencies do to get going?**

Current state at most government agencies

- **“We know we should get into SOA – but we don’t know how to get started”**
- **“We have a complex infrastructure and unique requirements”**
- **“Our programs should care about it – not the agency”**
- **“We don’t have money for a SOA infrastructure”**
- **“Governance – we don’t have any!”**

Why so little progress?

- **All agencies have a complex infrastructure, implemented over many years**
- **The typical Government contracting approach leads to silos implementation**
- **In most cases, silos are implemented using different technology, with little incentive to “optimize across the enterprise”**
- **Program managers are responsible for cost, schedule, quality and they want control**

Now, let's talk about more complicating factors

- **Lack of documented architecture:**

- ✓ One of the key components of SOA is the architecture, however, many organizations' infrastructures lack a clearly documented architecture

- **Security:**

- ✓ Since a solution needs to make use of multiple services, how can the security be guaranteed? How can the PM feel comfortable that security is addressed?

Now, let's talk about more complicating factors

- **Lack of control:**

- ✓ Program Managers want to control all aspects of the program: quality, service levels, schedules, changes, budget
- ✓ This leads to silos, duplication of functionality, higher costs, inconsistent quality and lack of standardization

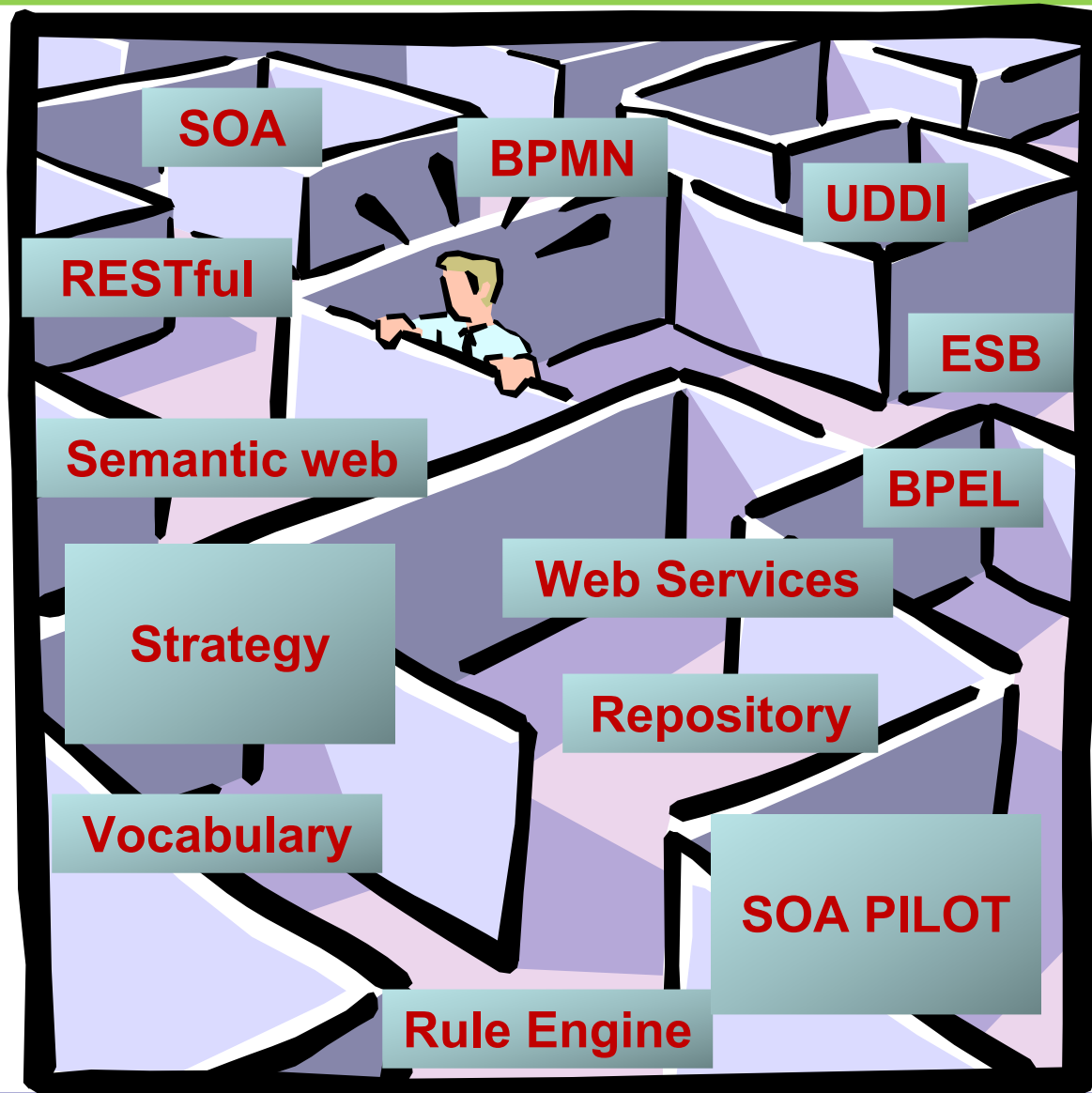
...and then there is the SOA
infrastructure dilemma

Build it and it will come



Build it as needed

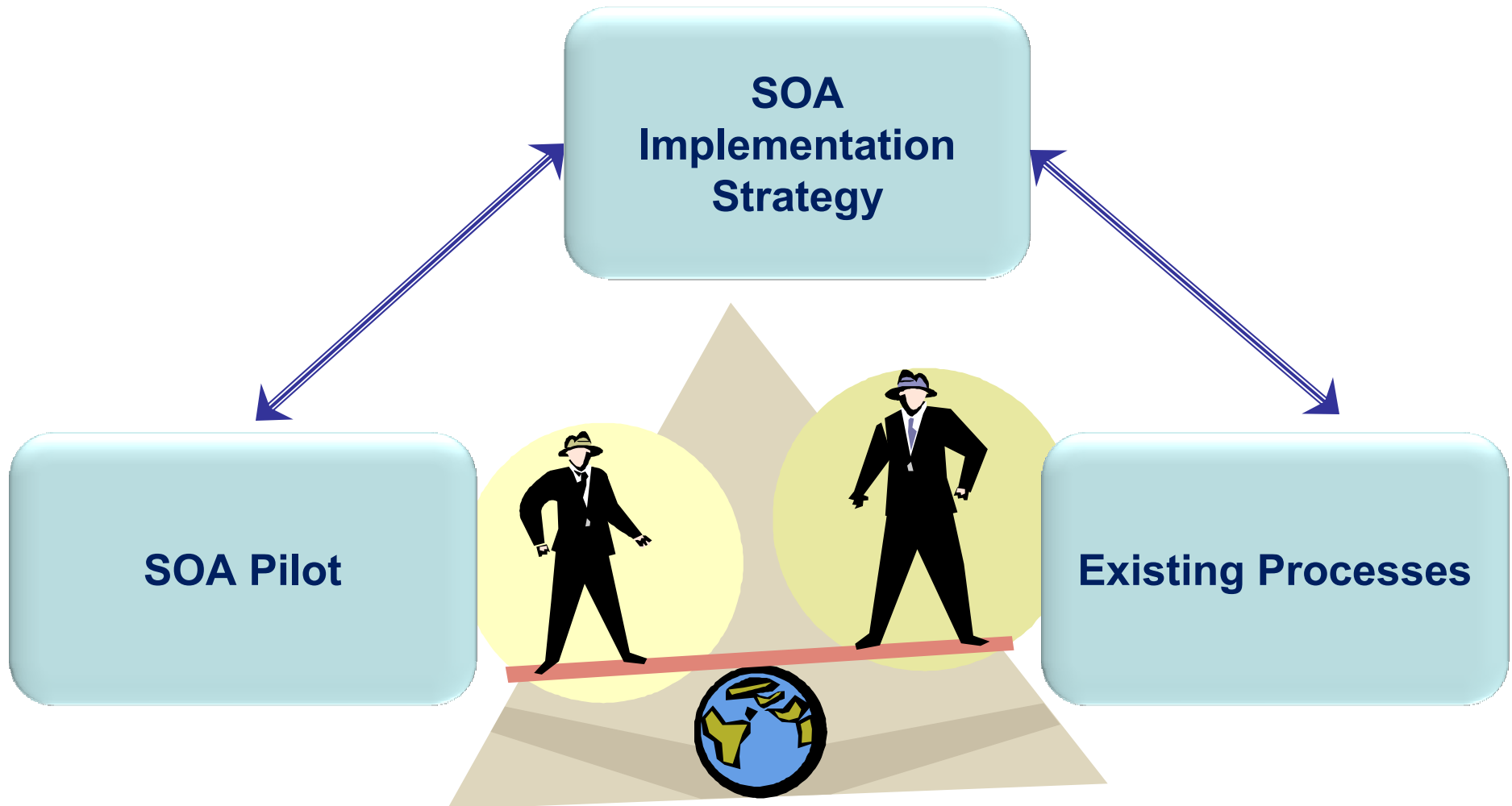
We also have all these standards, terminology and products...



Fact...

- **We have never seen a big bang theory work very well with regard to new ways of doing things / new technology**
- **We have seen the incremental approach work many times**

It's all about balance!



Why SOA Implementation Strategy?

- **SOA Implementation Strategy should provide the various roles in the organization with sufficient guidance on how to move into the SOA world**
 - ✓ Architecture
 - ✓ Governance
 - ✓ Service Implementation Guide
- **Once approved, it should be marketed to the various constituents and it should be part of all RFPs**

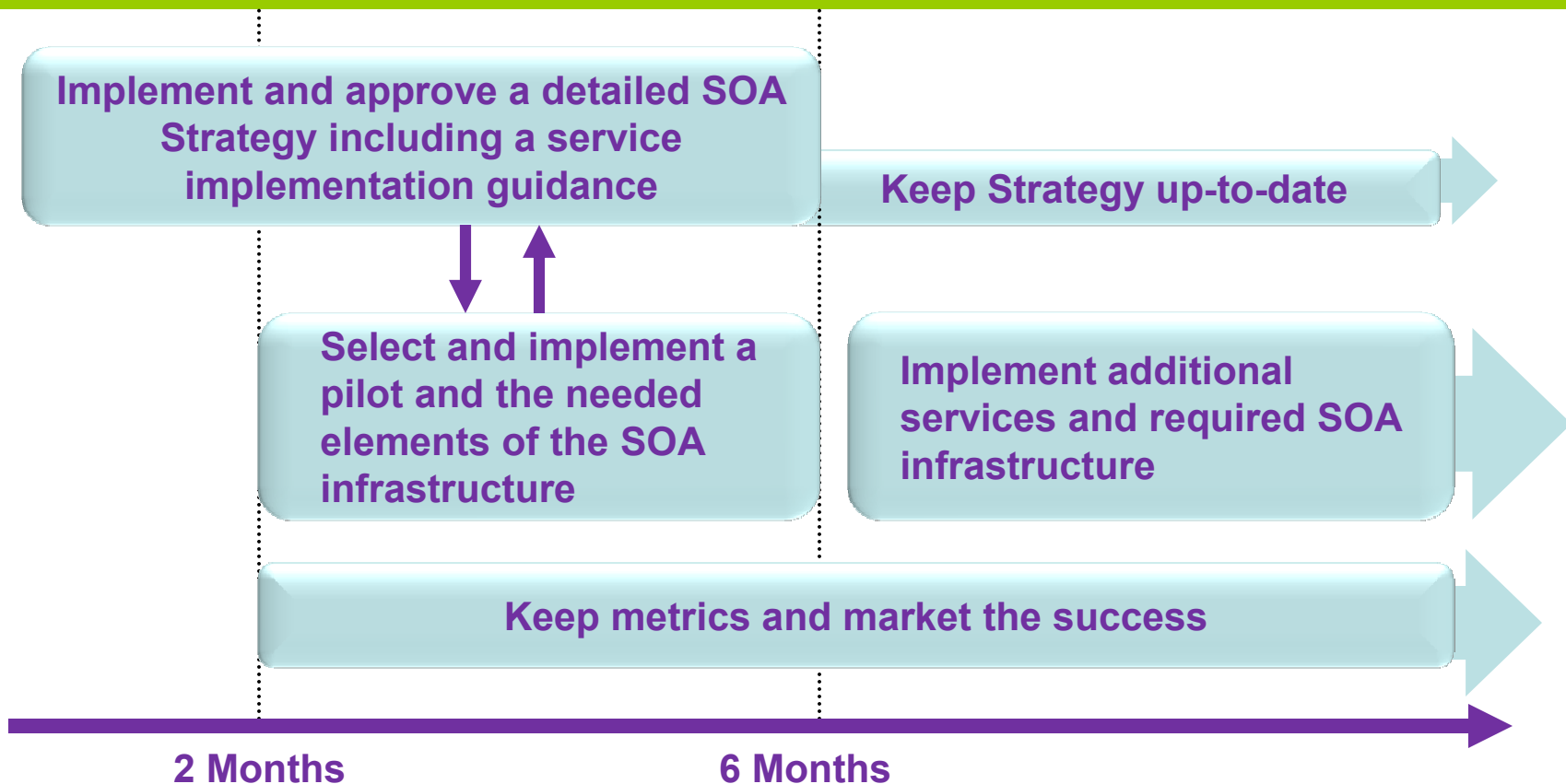
Why SOA Pilot?

- **Successfully implementing a pilot will help the organization overcome many concerns:**
 - ✓ How long will it take to deliver a capability?
 - ✓ Can functionality be delivered following the strategy document?
 - ✓ How about SOA Infrastructure?
 - ✓ Will it be cheaper?
 - ✓ How about quality?
 - ✓ How about security?

What about the existing processes?

- As the SOA Implementation Strategy is written and as the pilot is being implemented, we need to get hindrances to success out of the way
- The overhead of implementing a service must be **significantly lower** than the cost of implementing the service

Logical Approach



Use the first pilot to aggressively address steps in the process that prevent progress



How was it accomplished at DoD?

- SOA workshop was conducted
- The Trip Cost Estimator (TCE) pilot was selected
- A “cook-book” was written as a way of documenting the pilot experience
- The interaction with NCES SOAF was initiated
- The program level “cook-book” was elevated and significantly enhanced to become the BTA SOA Implementation Strategy
 - ✓ Outside review by multiple companies and Gartner “...my overall feedback is that this is one of the best DoD SOA documents I have ever seen...”

Example from DoD's Workshop - TCE

weight
5 = good
1 = bad

Service Name		Short Description		
Trip Cost Estimator		Enables quick and efficient estimation of trips based on the best information available from multiple sources		
High (5)		Medium (3)		Medium (3)
Customer Value		Risk		
DoD value	End user value	Technical	Program	Policy
5	1	3	3	5
		Time to Market		
		4		
Medium (3)	High (5)	Low (1)		
Investment Cost	Re-use potential	Domain Ownership		Sum
4	5	3		33
Weighted Score (5+1)*5 + (3+3+5)*3 + 4*3+ 4*3 + 5*5 + 3*1 = 115				



Trip Cost Estimator


Limited Technology Exploration

The TCE does not apply all regulatory requirements

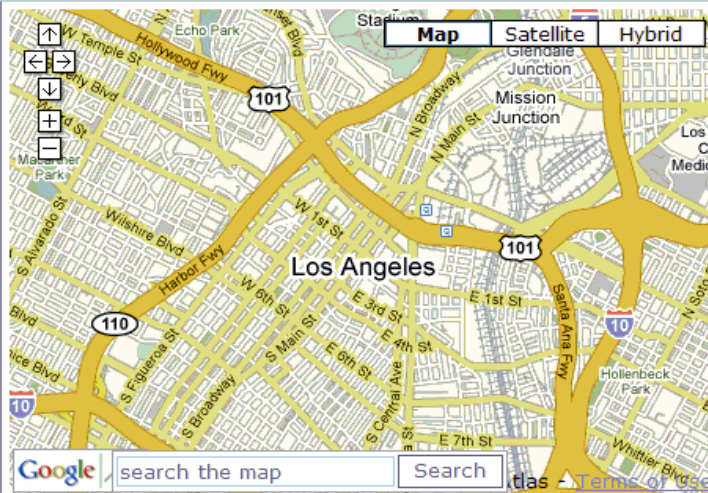
Select Trip Locations and Dates

Start Location: Mar 18, 2009

End Location: Mar 25, 2009







Local Map of Your Destination



Forecast Weather at your Destination

	Wednesday's forecast for Los Angeles, CA. Mostly sunny. Highs in the lower to mid 60s.
	Thursday's forecast for Los Angeles, CA. Sunny. Highs near 70.
	Friday's forecast for Los Angeles, CA. Sunny. Highs near 70.
	Saturday's forecast for Los Angeles, CA. Partly cloudy. Highs in the mid to upper 60s.
	Sunday's forecast for Los Angeles, CA.

Trip Cost Estimate

	(Round Trip):	\$160	GSACP (160) Min (135) Avg (135) Max (160)
	(Daily):	\$118	Allow (118) Min (59) Avg (1060) Max (2150)
	(Daily):	\$56	Min (27) Avg (56) Max (95)
	(Daily):	\$64	Hist (60) Allow (64)
	Misc. Exp.:	\$100	
	Total Trip Cost: 7 night(s) 8 day(s) incl. misc exp	\$2046	Min (1384) Avg (8625) Max (16562)
	Mileage Allowance for 538 miles (Round Trip) (Additional rules apply)	\$315	

Lessons Learned

- **Intelligent SOA can help an organization deliver more for less**
- **Everything must be standards based**
 - ✓ It is better to have less functionality and adhere to standards than more functionality using proprietary technology
- **Strategy and detailed guidelines are key**
- **Successful prototyping will establish momentum**

Lessons Learned (Cont.)

- **Governance is a must but too much governance can sink a SOA effort**
- **Appropriate procurement is important – we can't spend more effort on procurement than on the work itself**
- **We must address service quality and monitoring**
- **Security must be architected into the SOAF**

Wrap-up

- If you would like a template of the service scoring sheet, send me an e-mail (dov.levy@doveltech.com)
- If you would like a copy of the various artifacts, send me an e-mail and I will provide or route to the appropriate person
- Join the discussion @ www.doveltech.com/ctoblog